

WE CLAIM:

1 A built laundry detergent composition comprising

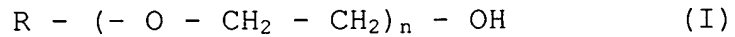
5

(i) from 5 to 40 wt% of surfactant consisting essentially  
of:

(i)(a) an anionic sulfonate or sulfate surfactant,

10

(i)(b) an ethoxylated alcohol nonionic surfactant of  
the general formula I



15

wherein R is a hydrocarbyl chain having from 8 to 16  
carbon atoms, and the average degree of ethoxylation n  
is from 20 to 50,

20 (i)(c) a quaternary ammonium cationic surfactant,

(ii) from 10 to 80 wt% of detergency builder,

(iii) optionally other detergent ingredients to 100 wt%.

25

2 A detergent composition as claimed in claim 1, which  
comprises from 7 to 30 wt% of the surfactant (i).

3 A detergent composition as claimed in claim 1, wherein  
the surfactant (i) consists essentially of:

(i) (a) from 20 to 98 wt% of the anionic sulfonate or  
5 sulfate detergent;

(i) (b) from 1 to 60 wt% of the nonionic surfactant, and

(i) (c) from 1 to 60 wt% of the cationic surfactant.  
10

4 A detergent composition as claimed in claim 1, which  
comprises, based on the composition:

15 (i) (a) from 1 to 20 wt% of the anionic sulfonate or  
sulfate detergent;

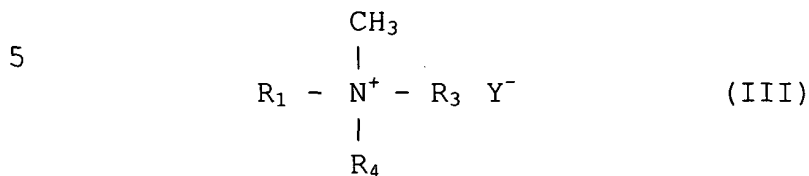
(i) (b) from 0.5 to 20 wt% of the nonionic surfactant, and

20 (i) (c) from 0.1 to 20 wt% of the cationic surfactant.

5 A detergent composition as claimed in claim 1, wherein  
the weight ratios between the surfactants are within the  
25 following ranges:

(i) (a) : (i) (b)	1.5:1 - 25:1
(i) (a) : (i) (c)	0.2:1 - 5:1
(i) (b) : (i) (c)	0.1:1 - 3:1

6 A detergent composition as claimed in claim 1, wherein  
the cationic surfactant is a compound of the formula III:



10 in which R<sub>1</sub> is a C<sub>8</sub>-C<sub>18</sub> alkyl group, more preferably a C<sub>8</sub>-C<sub>10</sub>  
or C<sub>12</sub>-C<sub>14</sub> alkyl group, R<sub>2</sub> is a methyl group, and R<sub>3</sub> and R<sub>4</sub>,  
which may be the same or different, are methyl or  
hydroxyethyl groups.

15

7 A detergent composition as claimed in claim 6, wherein  
the surfactant (i) consists essentially of:

20 (i) (a) from 50 to 98 wt% of the anionic sulfonate or  
sulfate detergent;

(i) (b) from 1 to 30 wt% of the nonionic surfactant, and

25 (i) (c) from 1 to 30 wt% of the cationic surfactant.

8 A detergent composition as claimed in claim 7, wherein  
the surfactant (i) consists essentially of:

(i) (a) from 60 to 95 wt% of the anionic sulfonate or  
5 sulfate detergent;

(i) (b) from 5 to 25 wt% of the nonionic surfactant, and

(i) (c) from 5 to 25 wt% of the cationic surfactant.  
10

9 A detergent composition as claimed in claim 6, which  
comprises, based on the composition:

15 (i) (a) from 3 to 30 wt% of the anionic sulfonate or  
sulfate detergent;

(i) (b) from 0.5 to 10 wt% of the nonionic surfactant, and

20 (i) (c) from 0.1 to 10 wt% of the cationic surfactant.

10 A detergent composition as claimed in claim 9, which  
comprises, based on the composition:

25 (i) (a) from 5 to 25 wt% of the anionic sulfonate or  
sulfate detergent;

(i) (b) from 1 to 5 wt% of the nonionic surfactant, and

30 (i) (c) from 0.2 to 5 wt% of the cationic surfactant.

11 A detergent composition as claimed in claim 6, wherein the weight ratios between the surfactants are within the following ranges:

(i) (a) : (i) (b)	2:1 - 25:1
(i) (a) : (i) (c)	2:1 - 50:1
(i) (b) : (i) (c)	0.1:1 - 3:1

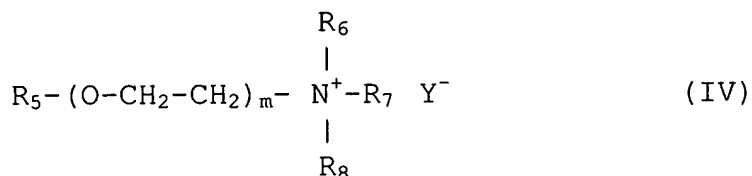
5

12 A detergent composition as claimed in claim 11, wherein the weight ratios between the surfactants are within the following ranges:

10

(i) (a) : (i) (b)	3:1 - 20:1
(i) (a) : (i) (c)	3:1 - 30:1
(i) (b) : (i) (c)	0.5:1 - 2:1

13 A detergent composition as claimed in claim 1, wherein the cationic surfactant (i)(c) is an ethoxylated quaternary ammonium compound of the formula IV:

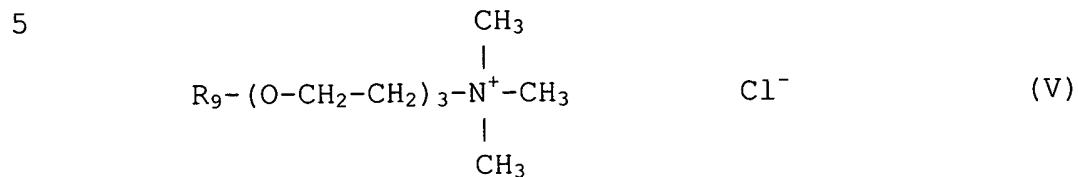


wherein  $R_5$  is a  $C_6$ - $C_{20}$  alkyl group,  
 $m$  is an integer from 1 to 20,  
 $R_6$  and  $R_7$ , which may be the same or different, each represents a  $C_1$ - $C_4$  alkyl group or a  $C_2$ - $C_4$  hydroxyalkyl group,  
 $R_8$  represents a  $C_1$ - $C_4$  alkyl group, and  
 $Y^-$  represents a monovalent solubilising anion.

14 A detergent composition as claimed in claim 13, wherein the cationic surfactant (i)(c) is a compound of the formula IV in which

$R_5$  is a  $C_{10}$ - $C_{16}$  alkyl group,  
 $m$  is from 1 to 4,  
 $R_6$ ,  $R_7$  and  $R_8$  are methyl groups, and  
 $Y^-$  represents  $Cl^-$ .

15 A detergent composition as claimed in claim 14, wherein  
the cationic surfactant (i)(c) is a compound of the formula  
V:



wherein R<sub>9</sub> is a C<sub>12</sub>-C<sub>14</sub> alkyl group.

16 A detergent composition as claimed in claim 13, wherein  
15 the surfactant (i) consists essentially of:

(i)(a) from 20 to 80 wt% of the anionic sulfonate or  
sulfate detergent;

20 (i)(b) from 5 to 40 wt% of the nonionic surfactant, and

(i)(c) from 10 to 60 wt% of the cationic surfactant.

17 A detergent composition as claimed in claim 16, wherein  
the surfactant (i) consists essentially of:

(i)(a) from 30 to 60 wt% of the anionic sulfonate or  
5 sulfate detergent;

(i)(b) from 10 to 30 wt% of the nonionic surfactant, and

(i)(c) from 20 to 50 wt% of the cationic surfactant.  
10

18 A detergent composition as claimed in claim 13, which  
comprises, based on the composition:

15 (i)(a) from 3 to 30 wt% of the anionic sulfonate or  
sulfate detergent;

(i)(b) from 0.5 to 10 wt% of the nonionic surfactant, and

20 (i)(c) from 0.1 to 10 wt% of the cationic surfactant.

19 A detergent composition as claimed in claim 18, which  
comprises, based on the composition:

25 (i)(a) from 5 to 25 wt% of the anionic sulfonate or  
sulfate detergent;

(i)(b) from 1 to 5 wt% of the nonionic surfactant, and

30 (i)(c) from 0.2 to 5 wt% of the cationic surfactant.



20 A detergent composition as claimed in claim 13, wherein the weight ratios between the surfactants are within the following ranges:

(i) (a) : (i) (b)	1.5:1 - 10:1
(i) (a) : (i) (c)	0.2:1 - 5:1
(i) (b) : (i) (c)	0.2:1 - 5:1

5

21 A detergent composition as claimed in claim 20, wherein the weight ratios between the surfactants are within the following ranges:

10

(i) (a) : (i) (b)	1:1 - 5:1
(i) (a) : (i) (c)	0.5:1 - 3:1
(i) (b) : (i) (c)	0.5:1 - 3:1

22 A detergent composition as claimed in claim 1, wherein the ethoxylated nonionic surfactant (i) (b) has a hydrocarbon chain containing from 10 to 16 carbon atoms.

15

23 A detergent composition as claimed in claim 22, wherein the ethoxylated nonionic surfactant (i) (b) has a hydrocarbon chain containing from 12 to 15 carbon atoms.

20

24 A detergent composition as claimed in claim 1, wherein the ethoxylated nonionic surfactant (i)(b) has an average degree of ethoxylation  $n$  of from 25 to 40.

5

25 A detergent composition as claimed in claim 1, wherein the anionic surfactant (i)(a) is linear alkylbenzene sulfonate.

10

26 A detergent composition as claimed in claim 1, wherein the composition is free from nonionic surfactants other than the nonionic surfactant (i)(b).

15

27 A detergent composition as claimed in claim 1, which comprises from 10 to 40 wt% of a detergency builder (ii) selected from the group consisting of sodium tripolyphosphate, zeolites, sodium carbonate, sodium  
20 citrate, layered silicates, and combinations thereof.

- 28 A detergent composition as claimed in claim 1, which  
comprises one or more optional ingredients (iii) selected  
from the group consisting of soaps, peroxyacid and persalt  
bleaches, bleach activators, sequestrants, cellulose ethers  
5 and esters, other antiredeposition agents, sodium sulfate,  
sodium silicate, sodium chloride, calcium chloride, sodium  
bicarbonate, other inorganic salts, fluorescers,  
photobleaches, polyvinyl pyrrolidone, other dye transfer  
inhibiting polymers, foam controllers, foam boosters,  
10 acrylic and acrylic/maleic polymers, proteases, lipases,  
cellulases, amylases, other detergent enzymes, citric acid,  
soil release polymers, fabric conditioning compounds,  
coloured speckles, and perfume.
- 15
- 29 A detergent composition as claimed in claim 1, which is  
in powder form.
- 20
- 30 A process for laundering textile fabrics by machine or  
hand, which includes the step of immersing the fabrics in a  
wash liquor comprising water in which a laundry detergent  
composition as claimed in claim 1 is dissolved or dispersed.
- 25